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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,506	11/12/2003	Tetsuo Take	32307-198662	1163
26694	7590	10/11/2007		
VENABLE LLP P.O. BOX 34385 WASHINGTON, DC 20043-9998			EXAMINER MERCADO, JULIAN A	
			ART UNIT 1795	PAPER NUMBER
			MAIL DATE 10/11/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/705,506	Applicant(s) TAKE, TETSUO	
	Examiner Julian Mercado	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 12-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 12-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2007-08-29</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

This Office action is responsive to applicant's amendment filed on July 16, 2007.

Claims 1-6 and 12-35 are pending.

Information Disclosure Statement

The Information Disclosure Statement filed on August 29, 2007 has been considered by the examiner.

Claim Rejections - 35 USC § 112

The rejection of claims 7-9 and 36-47 under 35 U.S.C. 112, second paragraph is deemed moot in view of the cancellation of these claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xu (U.S. Pat. 6,551,732 B1) in view of Morimoto et al. (U.S. Pat. 5,221,586).

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The rejection is maintained for the reasons of record. The examiner notes applicant's present amendment to the claims now reciting that the first power generating means supplies waste heat required for said steam reforming reaction along with recycling an emission... containing steam. To this end, see col. 3 line 56 et seq. as follows:

The present invention teaches use of the cathode *effluent gas* that contains residual oxygen and *water vapor* (as well as inert gas such as nitrogen and argon) as a feed to the fuel processor for partial oxidation or preferably *for autothermal reforming* to transform the fuel into hydrogen containing gas usable in the fuel cell reaction, so that part of the waste heat in the fuel cell can be recovered in the form of water vapor for use in fuel cell processing.
(emphasis added)

It is clear that the cathode effluent is an emission-containing steam in that it is specifically disclosed to contain water vapor. It is also clear that this effluent is directed to a steam reforming reaction, indeed, as cited above an autothermal reforming reaction is preferred.

Applicant's arguments have been fully considered, however they are not found persuasive. Applicant submits that Xu does not teach a second power generating means and that "[t]he question of obviousness can not [sic] be predicated on unknown [sic] information."

The examiner acquiesces with the assertion that Xu does not teach a second power generating means, but also maintains that arguments and attacks against the references individually cannot show nonobviousness where the rejections are based on *combinations* of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). As to arguments against Morimoto et al., insofar as Morimoto et al. is said to not teach the last three paragraphs of Claim 1 under rejection, the examiner asserts that only the last clause in Claim 1 calls for the teachings of Morimoto. For the reasons set forth in the prior Office action, the examiner maintains that Morimoto et al. teaches a second power

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generating means, i.e. a second fuel cell. Accordingly, the examiner maintains that the prior art as a whole teaches or at least suggests the claimed invention.

Claims 3 and 6 and are rejected under 35 U.S.C. 103(a) as being unpatentable over Xu in view of Morimoto et al. as applied to claims 1, 2, 4, 5, 7 and 8 above, and further in view of Gagnon (U.S. Pat. 4,098,960).

Claims 12-19 and 24-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xu in view of Morimoto et al. as applied to claims 1, 2, 4, 5, 7 and 8 above, and further in view of Scheffler et al. (U.S. Pat. 4,859,545).

Claims 20, 21-23 and 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xu in view of Morimoto et al. and Gagnon as applied to claims 3, 6 and 9 above, and further in view of Scheffler et al. (U.S. Pat. 4,859,545).

The rejections when further in view of Gagnon and Scheffler et al. are maintained for the reasons of record. It is noted that arguments submitted for the tertiary references merely assert that these references fail to remedy alleged differences in Morimoto et al. from the claimed invention, herein maintained for the reasons set forth *supra*.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



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PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER